

## ABSTRACT OF THE DISCLOSURE

A vacuum deposition system has been designed to produce thin film based demultiplexers with high throughput and production yields of greater than 25% for use in

5 Dense Wavelength Division Multiplexer (DWDM) systems. The system employs a dense array of high yield fixtures and an ion assisted movable dual electron beam evaporation system. The fixture array increases acceptable yields of narrow band pass filters to 25-75% compared to less than 5% in conventional coating systems used for DWDM. The movable e-beam system allows critical symmetry to be maintained while

10 eliminating significant delays resulting from deposition of two materials from a single electron gun. The vacuum deposition system will enable production of more than 15,000 50 – 200 GHZ filters which meet specifications for DWDM demultiplexers every 48 hours.

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